

IN THE CLAIMS:

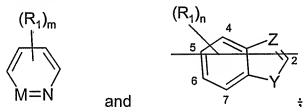
Please amend the claims as follows:

1. (Currently amended) A method of treating a trichomoniasis infection in a subject in need thereof, the method comprising administering to the subject an effective amount of a compound of Formula (I):

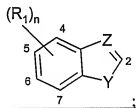


wherein:

Ar_1 is and Ar_2 are each independently selected from the group consisting of:



Ar_2 is:



wherein:

M , N and Z and N are each independently selected from the group consisting of N and CH ;

Z is N ;

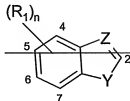
Y is selected from the group consisting of NR_3 , O , S , Se , and Te ; wherein R_3 is selected from the group consisting of H , alkyl, and substituted alkyl;

each m is independently an integer from 0 to 2;

each n is independently an integer from 0 to 3;

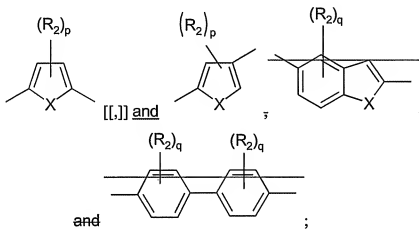
each R_1 is independently selected from the group consisting of alkyl, substituted alkyl, halo, hydroxyl, alkoxy, aryl, substituted aryl, aryloxy, and aralkyloxy; and

wherein if Ar_1 or Ar_2 is:



Ar_1 or Ar_2 is attached to L through a bond at carbon 2;

L is selected from the group consisting of:



wherein:

p is an integer from 0 to 2;

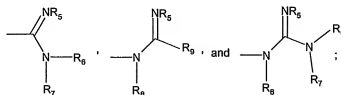
each q is independently an integer from 0 to 4;

X is selected from the group consisting of O, S, NR_4 , Se, and Te, wherein

R_4 is selected from the group consisting of H, alkyl, and substituted alkyl;

each R_2 is independently selected from the group consisting of alkyl, substituted alkyl, halo, hydroxyl, alkoxy, aryl, substituted aryl, aryloxy, and alkoxy; and

A_1 and A_2 are each independently selected from the group consisting of:

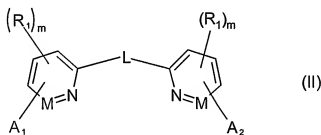


wherein:

R_5 , R_6 , R_7 , R_8 , and R_9 are each independently selected from the group consisting of H, alkyl, substituted alkyl, cycloalkyl, aryl, substituted aryl, aralkyl, hydroxyl, alkoxy, hydroxyalkyl, hydroxycycloalkyl, alkoxycycloalkyl, aminoalkyl, acyloxy, alkylaminoalkyl, and alkoxycarbonyl; or

R_5 and R_6 together represent a C_2 to C_{10} alkyl, C_2 to C_{10} hydroxyalkyl, or C_2 to C_{10} alkylene;
or a pharmaceutically acceptable salt thereof.

2. (Withdrawn) The method of Claim 1, wherein the compound of Formula (I) comprises a compound of Formula (II):



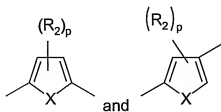
wherein:

each M and N is independently selected from the group consisting of N and CH;

each m is independently an integer from 0 to 2;

each R_1 is independently selected from the group consisting of alkyl, substituted alkyl, halo, hydroxyl, alkoxy, aryl, substituted aryl, aryloxy, and aralkyloxy;

L is selected from the group consisting of:



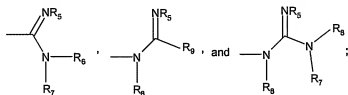
wherein:

p is an integer from 0 to 2;

each R_2 is independently selected from the group consisting of alkyl, substituted alkyl, halo, hydroxyl, alkoxy, aryl, substituted aryl, aryloxy, and aralkyloxy;

X is selected from the group consisting of O, S, NR_4 , Se, and Te, wherein R_4 is selected from the group consisting of H, alkyl, and substituted alkyl; and

A_1 and A_2 are each independently selected from the group consisting of:



wherein:

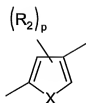
R_5 , R_6 , R_7 , R_8 , and R_9 are each independently selected from the group consisting of H, alkyl, substituted alkyl, cycloalkyl, aryl, substituted aryl, aralkyl, hydroxyl, alkoxy, hydroxyalkyl, hydroxycycloalkyl, alkoxy-cycloalkyl, aminoalkyl, acyloxy, alkylaminoalkyl, and alkoxy-carbonyl; or

R_5 and R_6 together represent a C_2 to C_{10} alkyl, C_2 to C_{10} hydroxyalkyl, or C_2 to C_{10} alkylene; or a pharmaceutically acceptable salt thereof.

3. (Withdrawn) The method of Claim 2, wherein M and N are each CH.
4. (Withdrawn) The method of Claim 2, wherein L comprises:



5. (Withdrawn) The method of Claim 2, wherein L comprises:



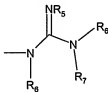
6. (Withdrawn) The method of Claim 2, wherein X is oxygen.

7. (Withdrawn) The method of Claim 2, wherein A_1 and A_2 each comprise:



and wherein R_6 and R_7 are independently selected from the group consisting of H, alkyl, substituted alkyl, and cycloalkyl; and R_5 is selected from the group consisting of H, hydroxyl, and alkoxy.

8. (Withdrawn) The method of Claim 2, wherein A_1 and A_2 each comprise:

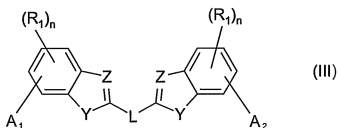


and wherein R_5 , R_6 , R_7 , and R_8 are each H.

9. (Withdrawn) The method of Claim 2, wherein the compound is selected from the group consisting of:

2,5-Bis(4-amidinophenyl)furan;
2,5-Bis[4-(O-methoxyamidino)phenyl]furan;
2,5-Bis[4-(N-isopropylamidino)phenyl]furan;
2,5-Bis[4-(N-cyclohexylamidino)phenyl]furan;
2,5-Bis(4-guanidinophenyl)furan; and
3,5-Bis(4-amidinophenyl)furan.

10. (Withdrawn) The method of Claim 1, wherein the compound of Formula (I) comprises a compound of Formula (III):



wherein:

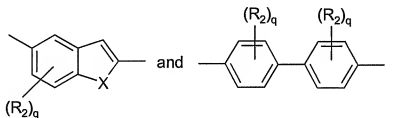
Y is selected from the group consisting of NR_3 , O, S, Se, and Te, wherein R_3 is selected from the group consisting of H, alkyl, and substituted alkyl;

Z is selected from the group consisting of CH and N;

each n is independently an integer from 0 to 3;

each R_1 is independently selected from the group consisting of alkyl, substituted alkyl, halo, hydroxyl, alkoxy, aryl, substituted aryl, aryloxy, and aralkyloxy;

L is selected from the group consisting of:



wherein:

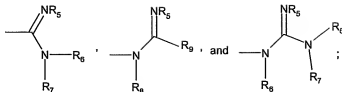
X is selected from the group consisting of O, S, NR_4 , Se, and Te, wherein

R_4 is selected from the group consisting of H, alkyl, and substituted alkyl;

each q is independently an integer from 0 to 4;

each R_2 is independently selected from the group consisting of alkyl, substituted alkyl, halo, hydroxyl, alkoxy, aryl, substituted aryl, aryloxy, and aralkyloxy; and

A_1 and A_2 are each independently selected from the group consisting of:



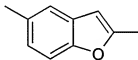
wherein:

R_5 , R_6 , R_7 , R_8 , and R_9 are each independently selected from the group consisting of H, alkyl, substituted alkyl, cycloalkyl, aryl, substituted aryl, aralkyl, hydroxyl, alkoxy, hydroxyalkyl, hydroxycycloalkyl, alkoxycycloalkyl, aminoalkyl, acyloxyl, alkylaminoalkyl, and alkoxy carbonyl; or

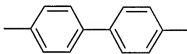
R_5 and R_6 together represent a C_2 to C_{10} alkyl, C_2 to C_{10} hydroxyalkyl, or C_2 to C_{10} alkylene;
or a pharmaceutically acceptable salt thereof.

11. (Withdrawn) The method of Claim 10, wherein Y is NH and Z is N.

12. (Withdrawn) The method of Claim 10, wherein L comprises:



13. (Withdrawn) The method of Claim 10, wherein L comprises:



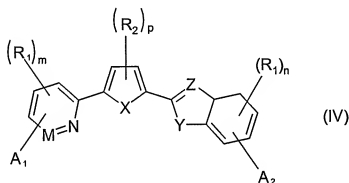
14. (Withdrawn) The method of Claim 10, wherein each A_1 and A_2 comprise



and wherein R_6 and R_7 are independently selected from the group consisting of H, alkyl, substituted alkyl, and cycloalkyl; and R_5 is selected from the group consisting of H, hydroxyl, and alkoxy.

15. (Withdrawn) The method of Claim 10, wherein the compound is selected from the group consisting of 4,4'-Bis{2-[(4-amidino)benzimidazol]}biphenyl and 2,5-Bis{2-[5-(N-isopropylamidino)benzimidazol]}benzo[b]furan.

16. (Currently amended) The method of Claim 1, wherein the compound of Formula (I) ~~comprises~~ is a compound of Formula (IV):



wherein:

M , N and Z and N are each independently selected from the group consisting of N and CH;

Z is N;

Y is selected from the group consisting of NR_3 , O, S, Se, and Te, wherein R_3 is selected from the group consisting of H, alkyl, and substituted alkyl;

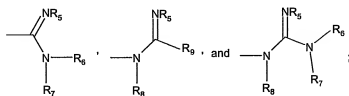
m is an integer from 0 to 2;

n is an integer from 0 to 3;

p is an integer from 0 to 2;

each R_1 and R_2 is independently selected from the group consisting of alkyl, substituted alkyl, halo, hydroxyl, alkoxy, aryl, substituted aryl, aryloxy, and aralkyloxy;

X is selected from the group consisting of O, S, NR₄, Se, and Te, wherein R₄ is selected from the group consisting of H, alkyl, and substituted alkyl; and A₁ and A₂ are each independently selected from the group consisting of:



wherein:

R₅, R₆, R₇, R₈, and R₉ are each independently selected from the group consisting of H, alkyl, substituted alkyl, cycloalkyl, aryl, substituted aryl, aralkyl, hydroxyl, alkoxy, hydroxyalkyl, hydroxycycloalkyl, alkoxycycloalkyl, aminoalkyl, acyloxy, alkylaminoalkyl, and alkoxycarbonyl; or

R₅ and R₆ together represent a C₂ to C₁₀ alkyl, C₂ to C₁₀ hydroxyalkyl, or C₂ to C₁₀ alkylene;
or a pharmaceutically acceptable salt thereof.

17. (Canceled)
18. (Currently amended) The method of Claim 16, wherein Y is NH and Z is N.
19. (Canceled)
20. (Currently amended) The method of Claim 16, wherein A₁ and A₂ are each comprise:



wherein R₅, R₆ and R₇ are each H.

21. (Original) The method of Claim 16, wherein the compound is 2-(4-Amidinophenyl)-5-[2-(5-amidinobenzimidazolyl)]thiophene.

22. (Original) The method of Claim 1, wherein the trichomoniasis infection is caused by the protozoan parasite *Trichomonas vaginalis*.

23. (Currently amended) The method of Claim 1, wherein the compound of Formula (I) ~~comprises~~ is a prodrug.

24. (Original) The method of Claim 1, wherein the compound of Formula (I) is administered in the form of a pharmaceutically acceptable salt.

25. (Currently amended) The method of Claim 24, wherein the pharmaceutically acceptable salt ~~comprises~~ is a hydrochloride salt.

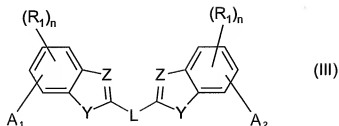
26. (Original) The method of Claim 1, wherein the subject is a human.

27. (Original) The method of Claim 1, comprising administering the compound of Formula (I) orally in one of a solid or a liquid formulation.

28. (Original) The method of Claim 1, comprising administering the compound in a liposomal formulation.

29. (Original) The method of Claim 1, comprising administering the compound of Formula (I) to prevent or reduce the incidence of recurrence of the *T. vaginalis* infection.

30. (Withdrawn) A compound of Formula (III):



wherein:

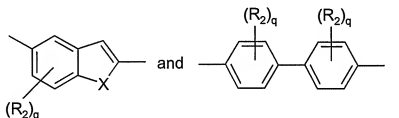
Y is selected from the group consisting of NR_3 , O, S, Se, and Te, wherein R_3 is selected from the group consisting of H, alkyl, and substituted alkyl;

Z is selected from the group consisting of CH and N;

each n is independently an integer from 0 to 3;

each R_1 is independently selected from the group consisting of alkyl, substituted alkyl, halo, hydroxyl, alkoxy, aryl, substituted aryl, aryloxy, and aralkyloxy;

L is selected from the group consisting of:



wherein:

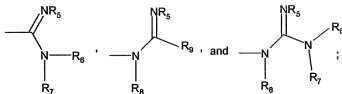
X is selected from the group consisting of O, S, NR_4 , Se, and Te, wherein

R_4 is selected from the group consisting of H, alkyl, and substituted alkyl;

each q is independently an integer from 0 to 4;

each R_2 is independently selected from the group consisting of alkyl, substituted alkyl, halo, hydroxyl, alkoxy, aryl, substituted aryl, aryloxy, and aralkyloxy; and

A_1 and A_2 are each independently selected from the group consisting of:



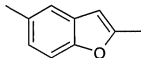
wherein:

R_5 , R_6 , R_7 , R_8 , and R_9 are each independently selected from the group consisting of H, alkyl, substituted alkyl, cycloalkyl, aryl, substituted aryl, aralkyl, hydroxyl, alkoxy, hydroxyalkyl, hydroxycycloalkyl, alkoxycycloalkyl, aminoalkyl, acyloxy, alkylaminoalkyl, and alkoxy carbonyl; or

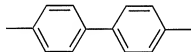
R_5 and R_6 together represent a C_2 to C_{10} alkyl, C_2 to C_{10} hydroxyalkyl, or C_2 to C_{10} alkylene;
or a pharmaceutically acceptable salt thereof.

31. (Withdrawn) The compound of Claim 30, wherein Z is N and Y is NH.

32. (Withdrawn) The compound of Claim 30, wherein L comprises:



33. (Withdrawn) The compound of Claim 30, wherein L comprises:



34. (Withdrawn) The compound of Claim 30 wherein A_1 and A_2 each comprise:



wherein R_6 and R_7 are independently selected from the group consisting of H, alkyl, substituted alkyl and cycloalkyl; and R_5 is selected from the group consisting of H, hydroxyl, and alkoxy.

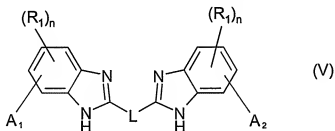
35. (Withdrawn) The compound of Claim 30, wherein the compound is selected from the group consisting of 4,4'-Bis{2-[(4-amidino)benzimidazolyl]}biphenyl, 2,5-Bis{2-[5-(*N*-isopropylamidino)benzimidazolyl]}benzo[b]furan, and pharmaceutically acceptable salts thereof,

36. (Withdrawn) A compound of Claim 30, wherein the pharmaceutically acceptable salt is a hydrochloride salt.

37. (Withdrawn) A pharmaceutical formulation comprising:

- (a) a compound of Formula (III); and
- (b) a pharmaceutically acceptable carrier.

38. (Withdrawn) A method of preparing a compound of Formula (V):

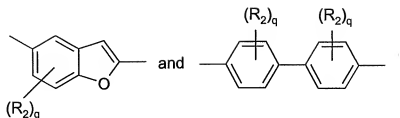


wherein:

each n is independently an integer from 0 to 3;

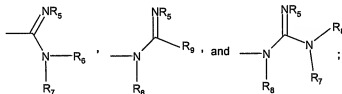
each R_1 is independently selected from the group consisting of alkyl, substituted alkyl, halo, hydroxyl, alkoxy, aryl, substituted aryl, aryloxy, and aralkyloxy;

L is selected from the group consisting of:



wherein each q is independently an integer from 0 to 4 and each R_2 is independently selected from the group consisting of alkyl, substituted alkyl, halo, hydroxyl, alkoxy, aryl, substituted aryl, aryloxy, and aralkyloxy; and

A_1 and A_2 are each independently selected from the group consisting of:



wherein:

R_5 , R_6 , R_7 , R_8 , and R_9 are each independently selected from the group consisting of H, alkyl, substituted alkyl, cycloalkyl, aryl, substituted aryl, aralkyl, hydroxyl, alkoxy, hydroxyalkyl, hydroxycycloalkyl, alkoxycycloalkyl, aminoalkyl, acyloxy, alkylaminoalkyl, and alkoxycarbonyl; or

R_5 and R_6 together represent a C_2 to C_{10} alkyl, C_2 to C_{10} hydroxyalkyl, or C_2 to C_{10} alkylene;

the method comprising refluxing a mixture of a dialdehyde, two molar equivalents of a diamine and two molar equivalents of an aromatizing reagent in a polar, protic solvent to form a compound of Formula (V).

39. (Withdrawn) The method of Claim 38, wherein the dialdehyde is selected from the group consisting of 4,4'-diformyl-1,1'-biphenyl and benzo[b]furan-2,5-dicarboxaldehyde.

40. (Withdrawn) The method of Claim 38, wherein the diamine is selected

from the group consisting of 4-amidino-1,2-phenylenediamine and 4-*N*-isopropylamidino-1,2-phenylenediamine.

41. (Withdrawn) The method of Claim 38, wherein the aromatizing reagent comprises 1,4-benzoquinone.

42. (Withdrawn) The method of Claim 38, wherein the polar, protic solvent comprises ethanol.

43. (Withdrawn) The method of Claim 38, comprising:

- (a) dissolving the compound of Formula (V) in a solvent to form a reaction mixture; and
- (b) treating the reaction mixture with a solvent saturated with HCl to form a hydrochloride salt of the compound of Formula (V).